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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,136	08/22/2003	Richard Wayne Fredenberg	WESD 2003-001	8939

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Joseph C. Spadacene
Westinghouse Electric Company LLC
4350 Northern Pike
Monroeville, PA 15146

EXAMINER

KWOK, HELEN C

ART UNIT PAPER NUMBER

2856

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/646,136	Applicant(s) FREDENBERG, RICHARD WAYNE	
	Examiner Helen C. Kwok	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/22/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 1-14 are objected to because of the following informalities. Appropriate correction is required.

In claim 1, line 5, the phrase "the surface" should be changed to – a surface --.

In claim 2, line 2, the phrase "the inside surface" should be changed to – an inside surface --.

In claim 3, line 2, the phrase "the outside surface" should be changed to – an outside surface --.

In claim 7, line 3, the phrase "the surface" should be changed to – a surface --.

In claim 12, it appears that the comma after the word "sleeve" should be deleted.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 7, the phrase "the linear phased array of ultrasonic transducers output" lacks antecedent basis. In line 16, the phrase "the most significant flaw" lacks antecedent basis. In lines 17-18, the phrase "the previous moving step" is vague. Is

this referring to the moving step of line 6 or the moving step of line 11? In line 20, the phrase "the most significant flaw" lacks antecedent basis.

In claim 5, lines 1-2, the phrase "the circumferential position" lacks antecedent basis.

In claim 7, line 3, the phrase "the steam inlet nozzle" lacks antecedent basis.

In claim 8, line 2, the phrase "the steam turbine" lacks antecedent basis.

In claim 9, line 2, the phrase "the trepan region" lacks antecedent basis.

In claim 10, line 2, the phrase "the nozzle chamber" lacks antecedent basis.

In claim 11, line 12, the phrase "the most significant flaw" lacks antecedent basis.

In lines 13-14, the phrase "the previous moving step" is vague. Is this referring to the moving step in line 7 of claim 11 or the moving step in line 6 of claim 1 or the moving step of line 11 of claim 1? In line 16, the phrase "the most significant flaw" lacks antecedent basis.

In claim 12, line 2, the phrase "the steam turbine" lacks antecedent basis.

In claim 13, line 2, the phrase "the turbine cylinders" lacks antecedent basis.

In claim 14, line 1, the phrase "the supporting and reflecting steps" is vague. Is this referring to the supporting step of claim 1 or the supporting step of claim 12?

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2856

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2 and 4-14 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,487,922 (Bauer et al.).

With regards to claims 1-2, 4-6 and 8-14, Bauer et al. discloses a steam turbine inlet sleeve inspection apparatus comprising, as illustrated in Figures 2-5, supporting transducers at an axial location along a surface (i.e. inside surface) of a cylinder component (i.e. main steam inlet nozzle sleeve); moving the transducers axially to identify an axial location to be monitored (i.e. a trepan region or a nozzle chamber to cylinder welds); fixing the transducers at the axial location to be monitored; moving the transducers circumferentially around the surface of the cylinder component while noting fatigue induced flaws in a wall of the cylinder component; routing the transducers; focusing the transducers at different depths of the wall to further characterize the depth and size of the flaw. (See, column 3, line 64 to column 6, line 65). Also, Bauer et al. further discloses remotely positioning the transducers and recording the circumferential position of the transducer. (column 3, lines 9-13, 24-25; column 4, lines 6-35). Furthermore, Bauer et al. teaches radially moving the transducers to a new radial position and performing the steps of inspecting at the new radial position without

disassembling the cylinders. (See, column 4, lines 29-35; column 5, line 30 to column 6, line 19).

With regards to claim 7, Bauer et al. suggest magnetic rubber nondestructive examination of the steam turbine. (See, column 2, lines 21-44).

6. Claims 1-2, 4-6, 8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by either U.S. Patent 4,597,294 (Brill, III et al.) or U.S. Patent 4,663,727 (Saporito et al.).

The references, Brill, III et al. and Saporito et al., disclose an ultrasonic inspection of a steam turbine comprising supporting transducers at an axial location along a surface (i.e. inside surface) of a cylinder component (i.e. main steam inlet nozzle sleeve); moving the transducers axially to identify an axial location to be monitored; fixing the transducers at the axial location to be monitored; moving the transducers circumferentially around the surface of the cylinder component while noting fatigue induced flaws in a wall of the cylinder component; routing the transducers; focusing the transducers at different depths of the wall to further characterize the depth and size of the flaw. Also, the references further disclose remotely positioning the transducers and recording the circumferential position of the transducer. Furthermore, the references teach radially moving the transducers to a new radial position. (See, column 3, line 46 to column 13, line 7 of Brill, III et al.; column 2, line 26 to column 5, line 46 of Saporito et al.).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,487,922 (Bauer et al.).

With regards to claim 3, although Bauer et al. does not explicitly teach the linear phased array of ultrasonic transducers are supported on an outside surface of the cylinder component, it would have been obvious to a person of ordinary skill in the art to have readily recognize the advantages and desirability of positioning the transducers on an outside surface of the cylinder component in lieu of the inside surface of the cylinder component since this is a mere design choice of placing the transducers or shift location of parts (Note: In re Japikse, 86 USPQ 70 (CCPA 1950)) without departing from the scope of invention and will not change and/or alter the performance and/or operation of the device, namely to inspect for anomalies in steam turbines.

Conclusion

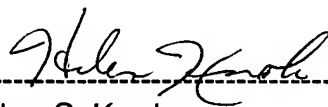
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references cited are related to steam turbine inspected by ultrasonic transducers.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Helen C. Kwok
Art Unit 2856

hck
6/23/2004